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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.          | CONFIRMATION NO.       |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/820,963   | 04/07/2004  | Shaolin Li           | 27592-00275- US4             | 9556                   |
| 30678 7590 12/11/2007<br>CONNOLLY BOVE LODGE & HUTZ LLP<br>1875 EYE STREET, N.W.<br>SUITE 1100<br>WASHINGTON, DC 20036 |             |                      | EXAMINER<br>JACKSON, BLANE J |                        |
|  |             |                      | ART UNIT<br>2618             | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>12/11/2007      | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/820,963

Applicant(s)

LI, SHAOLIN

Examiner

Blane J. Jackson

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 and 46-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-37 and 56-60 is/are allowed.
- 6) ☒ Claim(s) 46-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 10 October 2007 with respect to claims 46-55 have been fully considered but they are not persuasive. As regards claims 46 and 51, Walton teaches the broad claim language including the amended concept of processing the M independent modulated signals using a channel matrix and *a recovered data signal* to extract the data.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Claims 46-49 and 51-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Walton et al. (US 2004/0082356).

As to claims 46 and 51, Walton teaches a method and apparatus comprising:  
receiving data at first location (figures 1 and 7, paragraphs 0040, 0210 and 0211, an access point (110x)) of an MIMO WLAN system receives traffic data),  
transmitting the data to a second location (figure 7, paragraphs 0211-0213, each modulator (722) receives and processes a respective transmit symbol stream from a transmit spatial processor (720) to provide a corresponding stream of OFDM symbols for transmission from four antennas),

receiving the data at a second location, the data comprising M independent modulated signals (figures 1 and 7, paragraph 0214, user terminals (120x)),

processing the M independent modulated signals using a channel matrix and a recovered data signal to extract the data (figure 7, paragraphs 0214-0217, the RX spatial processor (770) of each active terminal further estimates the downlink channel state information to determine further data processing and feedback information to the access point (110)), and

storing the data (paragraph 216, the decoded data for each transport channel are provided to a data sink (772) for storage and/or a controller (780) for further processing).

As to claims 47 and 52 with respect to claims 46 and 51, Walton teaches the processing the data from N radio module transmitters simultaneously (paragraph 0042).

As to claims 48 and 53 with respect to claims 46 and 51, Walton teaches transmitting the data from N radio module transmitters simultaneously (figures 7, paragraph 0213, four separate OFDM symbol streams transmitted from four antennas (724x)),

As to claims 49 and 54 with respect to claims 46 and 54, Walton teaches controlling an energy modulation of separate transmission antennas capable of receiving the M separate modulated signals (figures 7, paragraphs 0213, 0214 and

0216, at the user terminal (120), a receive spatial processor performs spatial processing on the received OFDM symbols from all demodulators sent by the access point).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 50 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walton et al. (US 2004/0082356) in view of Bjorklund et al. (US 7,126,926).

As to claims 50 and 55 with respect to claims 46 and 51, Walton does not teach wherein the data is video data.

Bjorklund teaches a multi-tier WLAN system for digital radio communication comprising a wired LAN coupled to a host (112) for data control and storage and at least one first tier access point with a relatively long-range wireless radio, figures 1 and 6. Bjorklund further teaches the first tier access radio is wirelessly or wired to a second tier access point with relatively short-range wireless radios to support various applications including the control of hotel door locks, individual room temperature control and remote video monitoring, Abstract, figure 1, column 3, line 57 to column 5, line 50. In an application, Bjorklund directly describes a video security system comprising a wired LAN, a host, several video monitors, a first tier base station or access point (640) in wireless communication with video camera (610) and a second

tier access point (670) to connect another video camera (620) to the first tier base station, figure 6, column 8, lines 20-48. Bjorklund teaches the wired LAN (690) is connected to any (first tier) access point readily available on the market, column 3, line 66 to column 4, line 12, such as an IEEE 802.11 access point (640) as depicted utilizing wireless link (642) as opposed to a Bluetooth or RadPad protocol wireless link (646), figures 6 and 15, column 18, lines 53-66.

Since Bjorklund teaches the video camera (610) and communication module (660) are particularly useful in situations where high data throughput is desired and/or the video camera is located relatively far from the base station, figure 6, column 8, lines 28-36, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the WLAN application of a video security system of Bjorklund in the MIMO WLAN system of Walton for high data throughput and storage of high video resolution from a relative far video camera.

***Allowable Subject Matter***

Claims 1-37 and 56-60 are allowed.

The following is an examiner's statement of reasons for allowance: as to claims 1, 10, 17, 21 and 29, the prior art made of record teaches devices of a MIMO WLAN system comprising receive (and transmit) spatial processors, a radio frequency multi-antenna (video) data receiver comprising a multi-antenna signal processing circuit to process M independent RF modulated input signals using a channel mixing matrix to extract N (video) data signals transmitted by N separate video camera radio module

transmitters but does not teach a multi-antenna signal processing circuit to further utilize a signal from a second multi-antenna signal processing circuit to extract the transmitted data.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blane J. Jackson whose telephone number is (571) 272-7890. The examiner can normally be reached on Monday through Thursday, 7:30 AM-6:00 PM, EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

